CLAIMS

1. Use of at least two lactic acid bacterial strains selected from the group comprising *Pediococcus pentosaceus* 16:1 (LMG P-20608), *Leuconostoc mesenteroides* 23-77:1 (LMG P-20607), *Lactobacillus paracasei* subsp paracasei F-19 (LMG P-17806), and *Lactobacillus plantarum* 2362 (LMG P-20606) for the manufacturing of a formulation for the prevention and/or treatment of a stress-induced inflammatory disorder.
2. Use according to claim 1, wherein the formulation comprises four bacterial strains.
3. Use according to any of proceeding claims, wherein the stress induces inflammatory disorder is determined as an increase in neutrophils, cytokines, myeloperoxidase and/or accumulation of the oxidation-related malonedealdehyde.
4. Use according to any of proceeding claims, wherein the inflammatory disorder is lung inflammation, urinary inflammation, vaginal inflammation, bowel inflammation, stomach inflammation, liver inflammation, muscle inflammation, inflammation of endocrine and reproductive organs, and brain inflammation.
5. Use according to any of proceeding claims, wherein the formulation further comprises at least one fibre.
6. Use according to claim 5, wherein the fibre is selected from the group consisting of beta-glucan, inulin, pectin, resistant starch, cellulose, hemicellulose, arabinoxylans, arabinogalactans, polyfructose, inulin, oligofructans, galacto-oligosacharides, gums, mucilages, pectins, dextrins, maltodextrins, potato dextrins, synthesised carbohydrates, polydextrose, methylcellulose and hydroxypropylmethylcellulose.
7. Use according to claim 5, wherein the fibre is selected from lignin substances from plants selected from the group comprising waxes, cutin, phytate, saponin, suberin and tannins.
8. Use according to any of proceeding claims, wherein the formulation further comprises at least one antioxidant, vitamin, mineral, amino acid, peptide or protein.
9. Use according to any of proceeding claims, wherein the formulation further comprises glutamine, or a synthetic version thereof.
10. Use according to any of proceeding claims, wherein the formulation further comprises one or more therapeutic agents.
11. Use according to any of preceding claims, wherein the formulation is solid or liquid, such as tablet, gel or spray.
12. Use according to any of proceeding claims, wherein the formulation is administrated orally, ingested such as by tube fed, intraperitoneal, intrasmuscular or subcutaneous injection.
13. Use according to any of proceeding claims, wherein the stress-induced inflammatory disorder is acute or chronic.
14. Use according to any of proceeding claims, wherein the stress is induced by physical trauma, physical harm, an accident, burns, childbirth or poisoning.
15. Use according to any of proceeding claims, wherein the bacterial strains are to be administrated in an amount of at least 10^6 CFU/ml.
16. Use according to claim 15, wherein the bacterial strains are to be administrated in an amount of at least 10^8 CFU/ml

17. Use according to claim 16, wherein the bacterial strains are to be administrated in an amount of at least 10^{11} CFU/ml.
18. Use of the formulation according to any of proceeding claims for the treatment of a mammal suffering from a stress-induced inflammatory disorder, such as an animal or human being.